CLAIMS

SUB A 27

A multi-carrier base station operating within a predetermined set 1. of frequencies wherein data components of forward link data are transmitted simultaneously on a plurality of frequency bands, said base station comprising:

a first transmission subsystem for transmitting a sync channel message 4 on a single carrier frequency of a set of frequencies of said multi-carrier system;

6 and

at least one additional transmission subsystem for transmitting 8 remaining components of said forward link data.

The base station of Claim 1 wherein said sync channel message indicates the center frequency of at least one multi carrier system in said predetermined set of frequencies.

The base station of Claim 1 wherein said sync channel message indicates the frequency of a single carrier system in said predetermined set of frequenciés.

The base station of Claim 2 wherein said sync channel message indicates the trequency of a single carrier system in said predetermined set of frequencies.

- The base station of Claim 2 wherein/said sync channel message is transmitted on one of a set of a preferred frequency channels wherein the number of frequencies in said set of preferred frequency channels is less number of frequencies in said predetermined set of frequencies.
- 6. The base station of Claim 5 wherein said set of predetermined frequencies are the set of frequency/bands in a personal communications system block of frequencies.
- The base station of **G**laim 6 wherein the channel numbers of the set of preferred frequency channels are 75, 150 and 225.

A multi-carrier mobile station comprising:

- a control processor for controlling the operation of a plurality of receiver subsystems in accordance with information indicated in a received sync carrier message;
 - a first receiver subsystem for receiving said sync channel message on single carrier frequency and for providing said sync carrier message to said control processor and for receiving a first portion of a multi-carrier signal;
- 8 at least one additional receiver subsystem for receiving additional portions of said multi-carrier signal.
- 9. The mobile station of Claim 8 wherein said control processor is further for deciding whether to operate in a single band mode or a multi-carrier mode and for directing said first receiver system to tune to a frequency
- 4 indicated in said sync channel message for the reception of a single band system when said mobile station decides to operate in a single band mode and
- 6 for directing said first receiver subsystem to tune to a first frequency and for directing said at least one additional receiver subsystem to tune to at lest one
- 8 additional frequency when said mbile station decides to operate in a multicarrier mode.
- 10. The mobile station of Claim 8 wherein said control processor directs said first receiver subsystem to tune to one of a predetermined set of preferred frequencies.
- 11. The mobile station of Claim 8 wherein said mobile station is operating within a personal communication system (PCS) set of frequencies and wherein said predetermined set of preferred frequencies consist of the frequency channel numbers 75, 150 and 225.

 $Add M^3$ $Add N^1$